



***December 2, 2015***

***TMMA Information Session***

***Article 2***

***School Facilities Capital Projects***



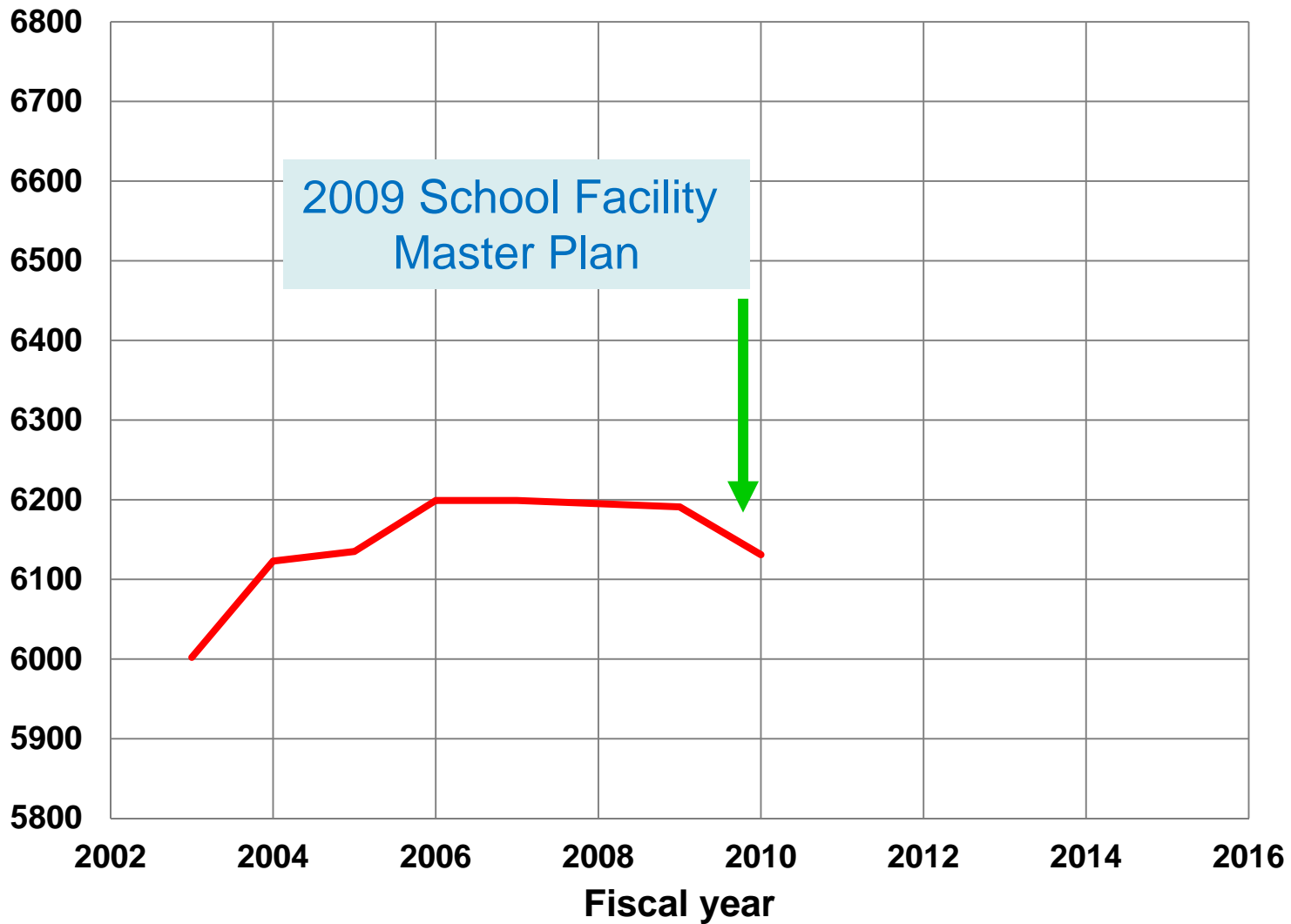
# Agenda

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- *Unasked Questions*
- *Update since March STM appropriation*  
*Is growth still continuing?*  
*Update on March STM Appropriation*
- *Review plans for optimizing usage*  
*PreK*  
*Elementary*  
*Middle School*  
*High School*
- *School Committee Recommendation*  
*Appropriation request*



# K - 12 School Enrollment





# MSBA School Ratings 2006

District Name	School Name	School Type	Grades Served	School Rating
Bowman ES	Elementary School	K - 05	1967	2*
Bridge ES	Elementary School	K - 05	1966	2
Fiske ES	Elementary School	K - 05	1956	3
Harrington ES	Elementary School	PK - 05	2004	1
Jonas Clarke MS	Middle School	06 - 08	1972	2
Joseph Estabrook ES	Elementary School	K - 05	1962	3
Lexington HS	High School	09 - 12	1949	2
Maria Hastings ES	Elementary School	K - 05	1955	3
Wm Diamond MS	Middle School	06 - 08	1959	2

2\* - Moderate renovation      3 - Moderate to major renovation

MSBA competitive grant program, one project at a time, each submitted for consideration through annual Statement of Interest (SOI) process.

Reimbursement rate based on community ability to pay.





# 2009 Master Planning Process

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## Key considerations:

### *Condition of buildings*

- Four elementary schools in need of attention
- Need plan to address all within ten years
- Systems updates, code compliance, and ADA compliance

### *Current and future enrollment*

- Appeared stable / declining

### *Current and future program needs*

- Believed educational program needs could be met within existing space

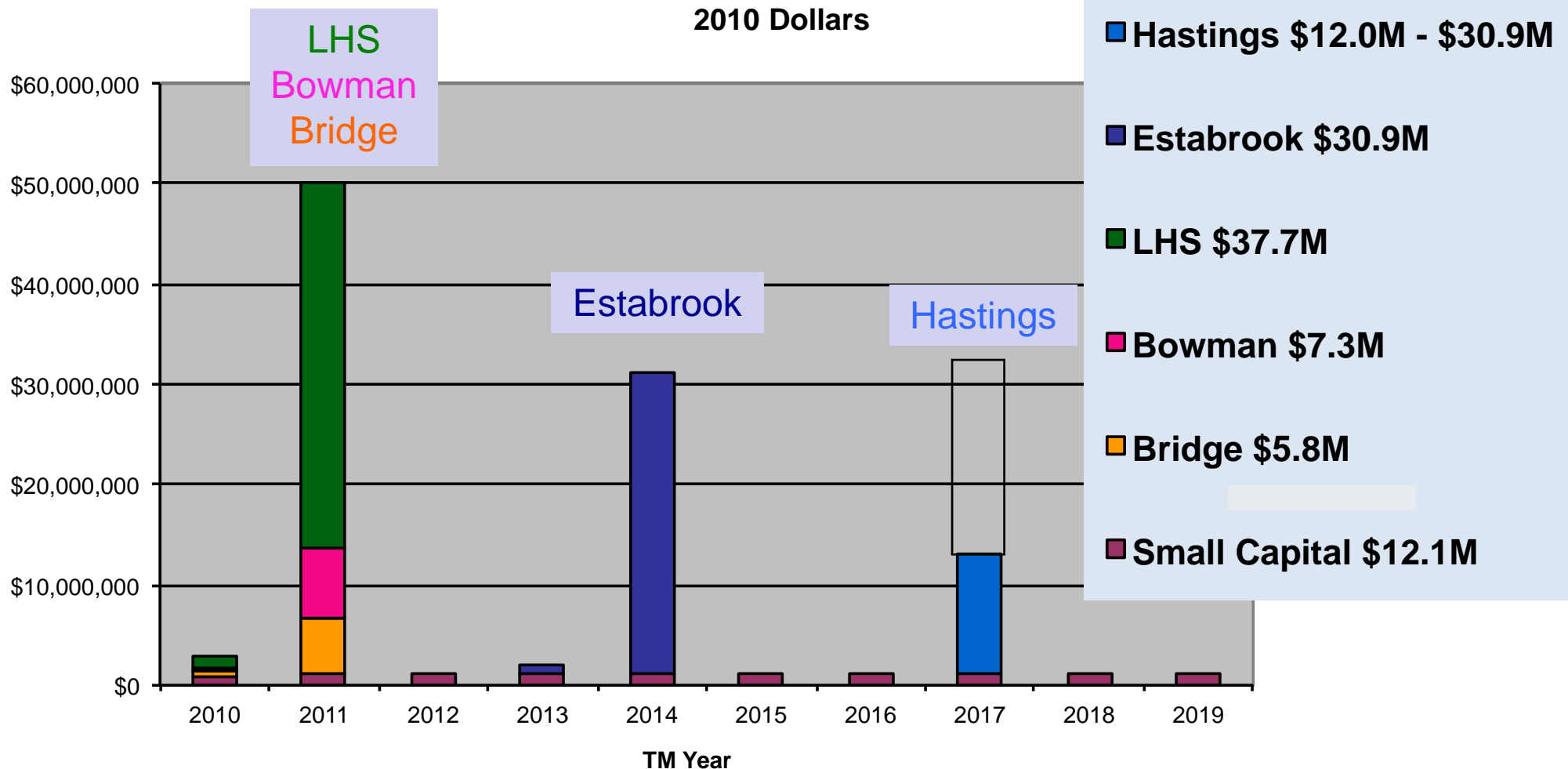


# 2009 10 Year School Facility Capital Spending

## With MSBA Approval of LHS Project

Total School Facility Capital Spending \$105.7M - \$124.7M  
2010 - 2019 TM

2010 Dollars





# Lexington High School

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SOI submitted October 29, 2009, but not supported by MSBA:

- Elimination of severe overcrowding
- Modernization of school systems, roofs, boilers, and HVAC
- Addition / renovation of buildings for program requirements (projected as additional 45,000 gross square feet)

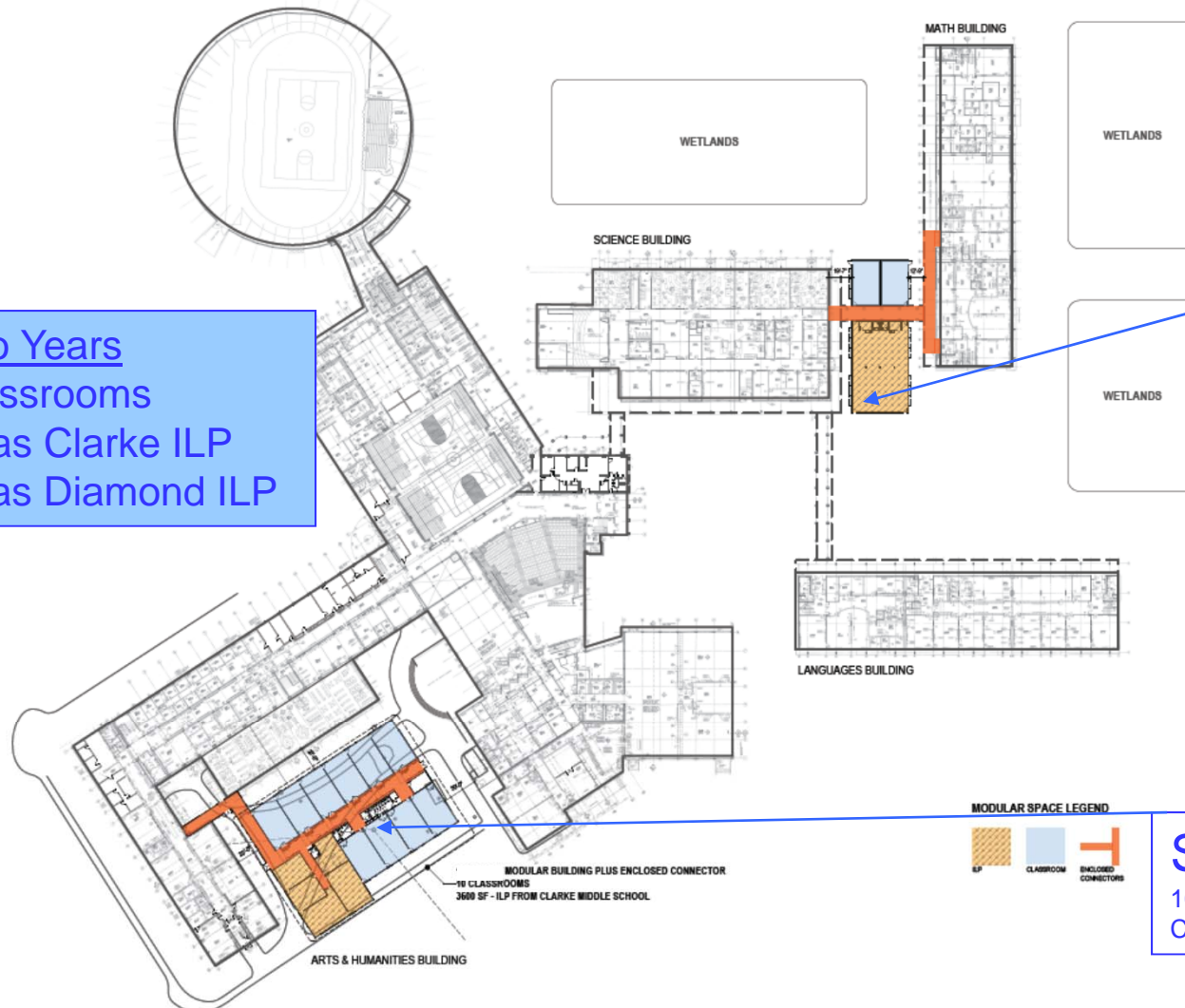
Without MSBA support, Lexington has implemented improvements:

- Through space mining, added four classrooms
- MSBA Green Repair grant for roof replacement, reimbursed \$359,546 of total \$1,197,444 spending.
- Constructed a 16,500 square foot prefabricated building in 2014 and a 7,500 square foot prefabricated building in 2015, total cost \$8.8M

The boiler and HVAC improvement is included in School Committee November 18, 2015 recommendation. A major project at LHS will be required in the near future.



# Space Recommendation – November 2013 STM



## Total Two Years

12 General Ed Classrooms  
5 Instructional Areas Clarke ILP  
7 Instructional Areas Diamond ILP

## Summer 2015

2 General Ed Classrooms  
Diamond ILP

## Summer 2014

10 General Ed Classrooms  
Clarke ILP

LEXINGTON HIGH SCHOOL  
MODULAR ADDITION

251 WALTHAM STREET  
LEXINGTON, MA

A1

10 CLASSROOM + CLARKE ILP @  
CAMPUS PLAN

16,500 GSF



3 SEPTEMBER 2013  
NOT FOR CONSTRUCTION  
TBA PROJECT # 1176.19

TBA ARCHITECTS, INC.  
ARCHITECTURE  
PLANNING  
PROJECT MANAGEMENT  
"SUSTAINABLE" DESIGN







# Phase 1 Complete August 2014

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December 2, 2015





# Phase 2 Complete August 2015

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December 2, 2015





# Bridge and Bowman

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- 2009 Master Plan had identified that the 1966 and 1967 buildings were in good condition, but needed replacement of systems.
- 2010 Annual Town Meeting supported design funding for Bridge and Bowman renovation.
- 2011 Annual Town Meeting supported expanding the scope of Bridge and Bowman renovation to include adding classrooms and small educational spaces, and system improvements to security, lighting, HVAC, and accessibility.  
Occupant load 520 students each.
- Total cost for both school renovations is \$21M.
- A new 24 classroom school was projected to cost \$30M each in 2011.



# Estabrook

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- 2009 Master Plan had identified Estabrook as being a candidate for replacement. SOI to be submitted after LHS SOI.
- Emergency SOI submitted November 8, 2010, after PCB concern.
- Feasibility Study Agreement June 24, 2011.
- New Estabrook School opened February 24, 2014, (32 months.)
- Total cost for school construction is \$40.1M.
- MSBA grant to date is \$11.6M, anticipate \$.4M final payment.
- MSBA approved 91,840 square foot school to meet the Lexington Educational Program, reimbursement applied @\$275/sqft.



# Hastings

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- 2009 Master Plan had identified Hastings as being a candidate for replacement due to conditions and 8 modular classrooms. Defer until after Estabrook, monitor enrollment.
- SOI submitted in 2014 and 2015. MSBA notification is expected by mid-December on invitation to eligibility period.
- Should Lexington be invited into the eligibility period, a funding request will be brought to Town Meeting in March for Feasibility and Schematic Design.
- Feasibility study in progress to construct a 30 classroom school while the current school stays in use.



# Agenda

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- ***Update since March STM appropriation***  
***Is growth still continuing?***  
***Update on March STM Appropriation***
- ***Review plans for optimizing usage***  
***PreK***  
***Elementary***  
***Middle School***  
***High School***
- ***School Committee Recommendation***  
***Appropriation request***



# Enrollment Projections

## EWG projection December 2014

<i>Grade Group</i>	<i>Method</i>	<i>Enrollment in FY2020</i>	<i>Growth over FY 2014</i>
<b>Elementary (K-5)</b>	HDM	3188 +/- 267	260 +/- 267
<b>Middle School (6-8)</b>	CSM	1830 +/- 70	171 +/- 70
<b>High School (9-12)</b>	CSM	2290 +/- 120	269 +/- 120
<b>Total System</b>	HDM	7279 +/- 410	671 +/- 410

## LPS projection November 2015, and annually in November

	<i>Method</i>	<i>2016-17</i>	<i>2017-18</i>	<i>2018-19</i>	<i>2019-20</i>
K -5	HDM	3113 ± 90	3169 ± 116	3246 ± 143	3296 ± 171
6-8	CSM	1723 ± 30	1753 ± 40	1779 ± 50	1785 ± 60
9-12	CSM	2179 ± 40	2177 ± 60	2205 ± 80	2273 ± 100

Elementary September 2019 projection +108

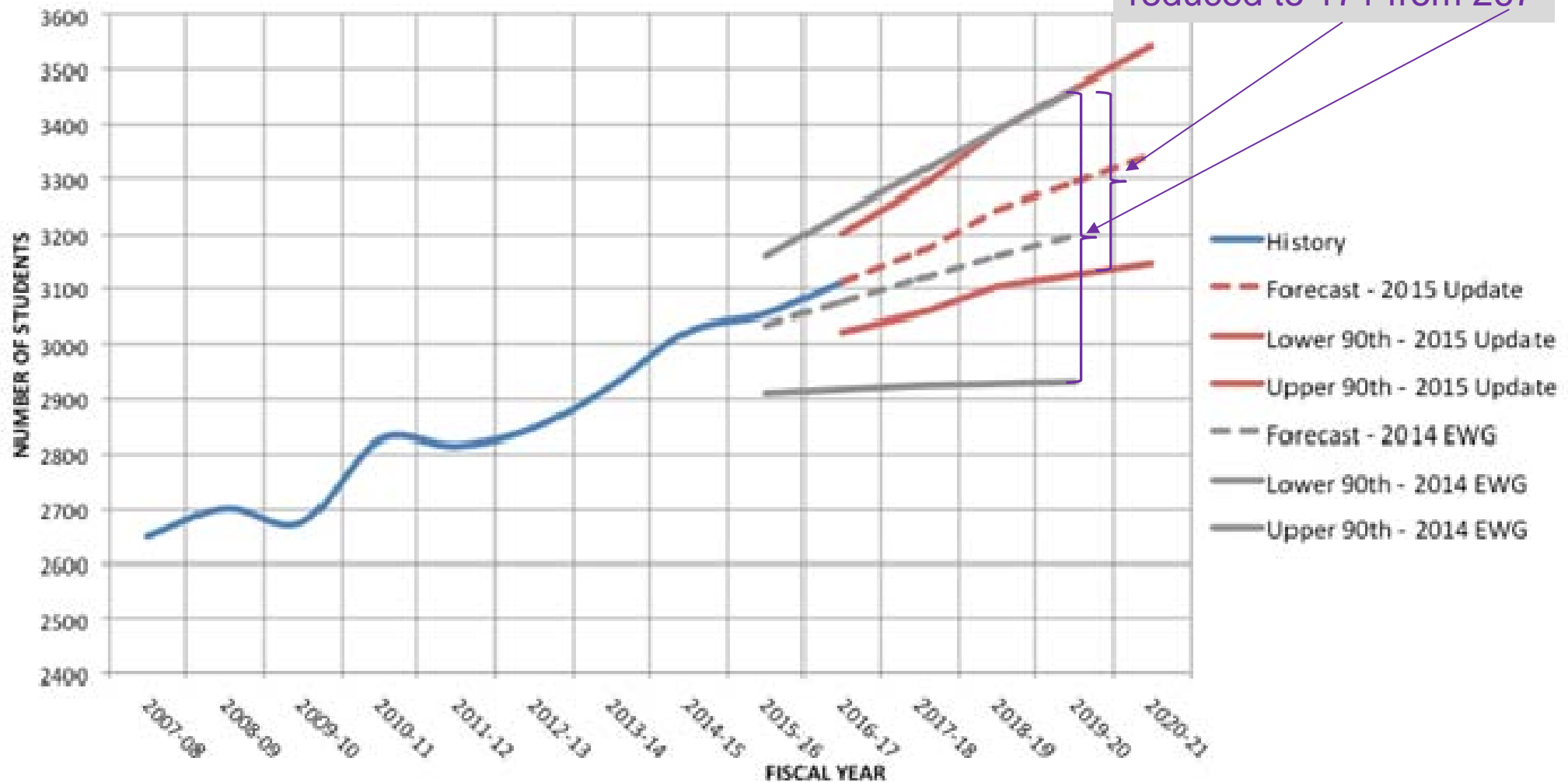
Middle School “ “ - 45

Lexington High School “ “ - 17



# Elementary Projection

Comparison of Elementary School Forecasts







# March 2015 STM, Article 2

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Appropriation of \$4,080,000 for further development of multiple school projects. The projects, in total, could require future construction appropriations from \$100 to \$120 million.

## **PRE-K/ELEMENTARY**

- Pre-K – Additional space, with location to be determined
- Hastings School – A new 30 classroom school for long term growth
- Bridge, Bowman and Fiske – Prefabricated space for August of 2016
- Harrington and Fiske – Possible brick and mortar additions

## **MIDDLE SCHOOLS**

- Clarke and Diamond – Combined solution through prefabricated space and a brick and mortar addition

## **HIGH SCHOOL**

- Maintain buildings. Future renovation or rebuild to be determined.



# Article 2 Spending

<b>Approved at March STM</b>		<b>\$ 4,080,000</b>
First Release	DiNisco	\$843,719
	Hill	\$199,145
		<b>\$1,042,864</b>
Second Release	DiNisco	\$1,737,982
	Hill	\$104,000
	CM	\$172,420
		<b>\$2,014,402</b>
Third Release	DiNisco	\$62,106
Fourth Release	DiNisco	\$71,000
<b>Releases</b>		<b>\$3,190,372</b>
<b>MUNIS actual/encumbered 11/23</b>		<b>\$3,070,308</b>
<b>Available to encumber</b>		<b>\$120,064</b>
<b>Available to release</b>		<b>\$ 889,628</b>
Release 5 on 12/2		\$ 427,170
<b>Remaining for release after 12/2</b>		<b>\$ 462,458</b>



# Progress Since March STM

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- DiNisco Design selected as project architects and Hill Associates contracted for project management.
- Seven public presentations at schools
- Six presentations at Permanent Building Committee
- Five presentations at School Committee
- Additional reviews at Board of Selectmen meetings and budget summits



# Growth Impact on Schools

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- LCP Program has outgrown Harrington space, expanded into Central Administration Building
- Since 2009, elementary sections have increased from 128 to 142, compressing space for arts, special education and core functions, with average class size maintained at 21.5.
- Since 2009, middle school team size has increased from 83 students per team to 89 students per team, also compressing space for arts, music, drama, engineering, special education, and core functions
- Lexington High School has added 24,000 square feet of general education and ILP space, but core functions remain compressed
- Circulation of pedestrians, bikers, busses and vehicles at schools has become stressed.



# Agenda

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- ***Unasked Questions***
- ***Update since March STM appropriation***  
***Is growth still continuing?***  
***Update on March STM Appropriation***
- ***Review School Committee Recommendations***  
***Lexington Children's Place***  
***Elementary***  
***Middle School***  
***High School***
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***Appropriation request***



# Planning For Our Schools

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# LCP Recommendation

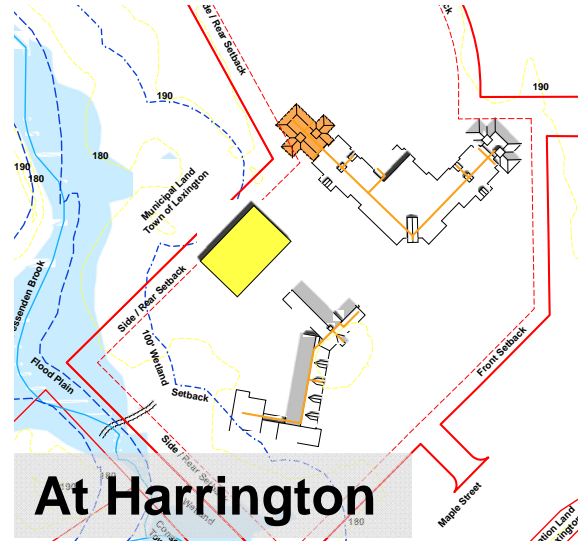
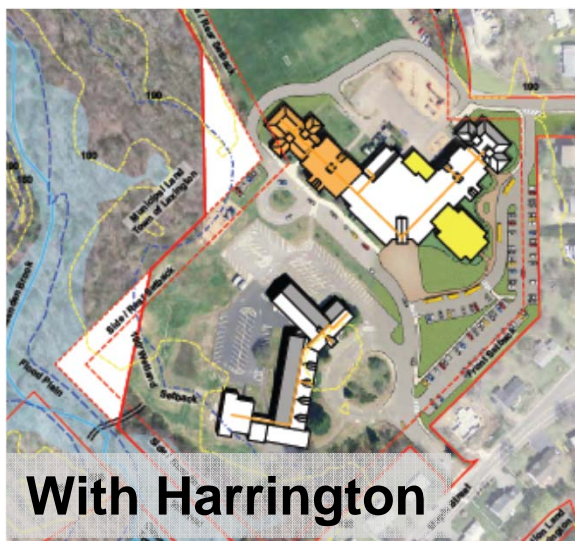
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Continue to deliver program at Harrington School and Central Administration Building, but prioritize identifying permanent home in the near term.

- Avoids annual operating expense >\$500,000 for lease and operation of building on Minuteman High School Campus.
- Three year lease would have required new space to be available for September, 2019.
- Review of multiple locations for the new LCP identified the Harrington campus as the only viable option to date.



# Multiple LCP Locations Evaluated







# Elementary Recommendation : New Hastings

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New 30 classroom school

Increase capacity 9 classrooms

MSBA Senior Study September 2015

Response on 2015 SOI expected mid - December 2015

Open August 2018 (w/out MSBA)  
or August 2019 (w MSBA)



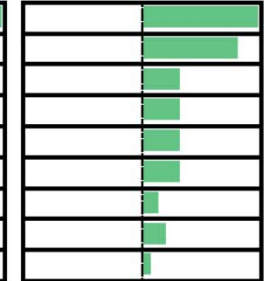
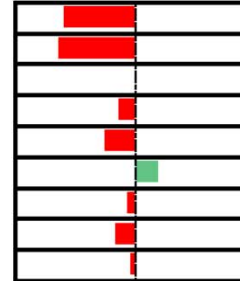
# Hastings Evaluation Criteria



## Educational Program

16	16%	Core Academic Spaces
13	13%	Special Education
5	5%	Art & Music
5	5%	Health & Physical Education
5	5%	Library
5	5%	Dining & Food Service
2	2%	Medical
3	3%	Administration & Guidance
1	1%	Custodial & Maintenance
55%		

-3	5	5	5
-4	5	5	5
0	5	5	5
-2	5	5	5
-4	5	5	5
3	5	5	5
-2	5	5	5
-4	5	5	5
-2	5	5	5



93

83

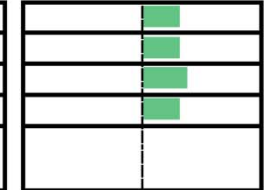
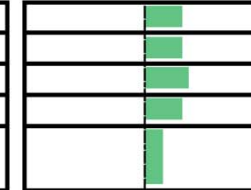
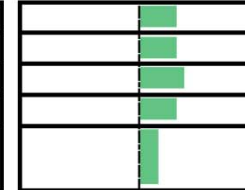
Sub Total

14	55	55	55
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## Facility

5	5%	Configuration/Adjacency
5	5%	Circulation
6	6%	Flexibility for Future Program & Space Needs
5	5%	Community
4	4%	Design Compatibility (blend into existing building, lighting & other impacts)
25%		

0	5	5	5
-2	5	5	5
-5	5	5	5
5	5	5	5
0	3	3	0



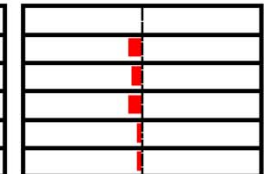
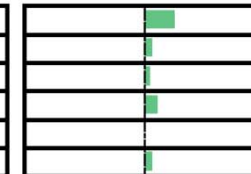
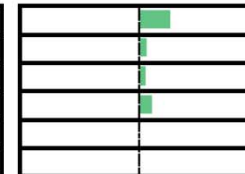
Sub Total

11	24	24	23
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## Site

5	5%	LPS Traffic & Mitigation Policy
4	4%	Playgrounds and School Fields
3	3%	Recreation Fields/Conservation Access
4	4%	Facility expansion capacity
2	2%	Environmental impacts/Conservation Issues
2	2%	Traffic/Neighborhood Impact
20%		

-4	4	4	0
3	1	1	-2
2	1	1	-2
-4	2	2	-2
0	0	0	-1
-2	0	2	-1



Sub Total

8	14	14	7
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Total Score

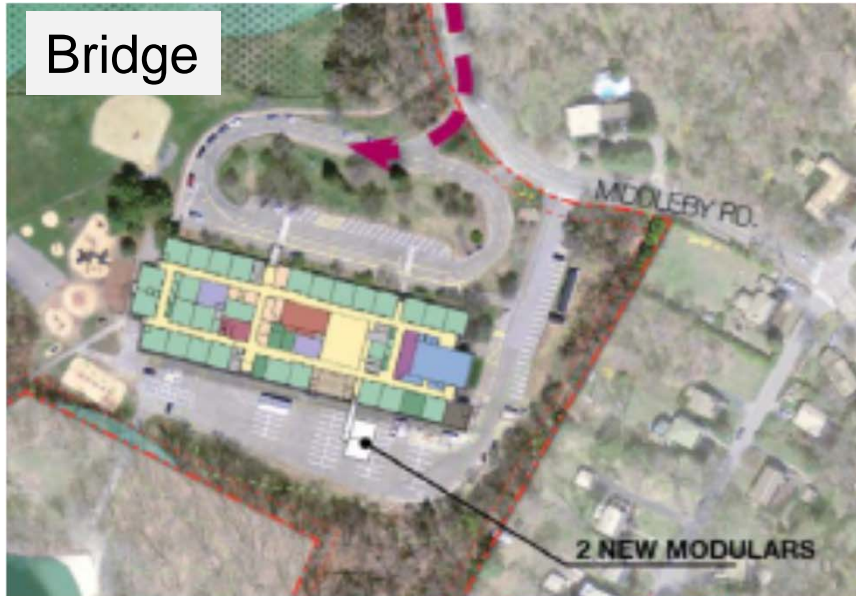
33	93	93	85
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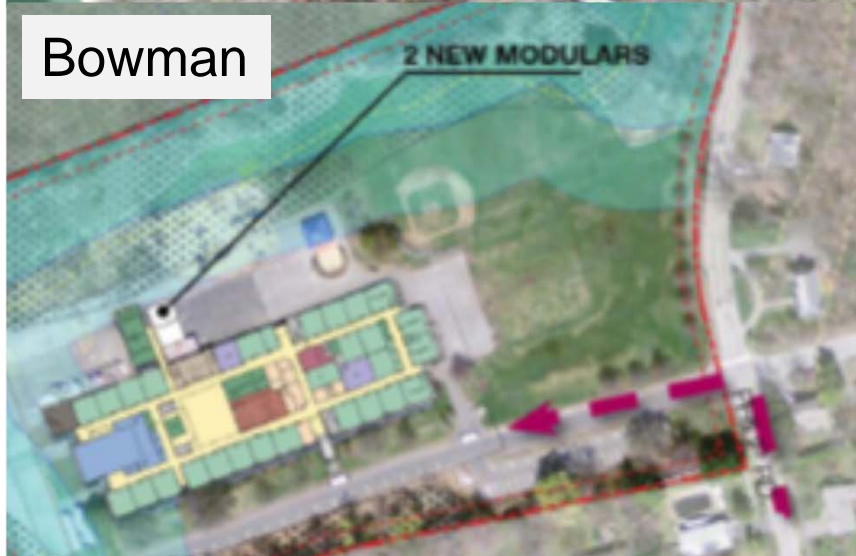


# Elementary Recommendation: Six Modular Classrooms for Fall 2016

Bridge



Bowman



School Committee recommends adding six modular classrooms, final locations to be determined. Pairs of Modular classrooms shown conceptually at Bridge, Bowman, and Fiske.

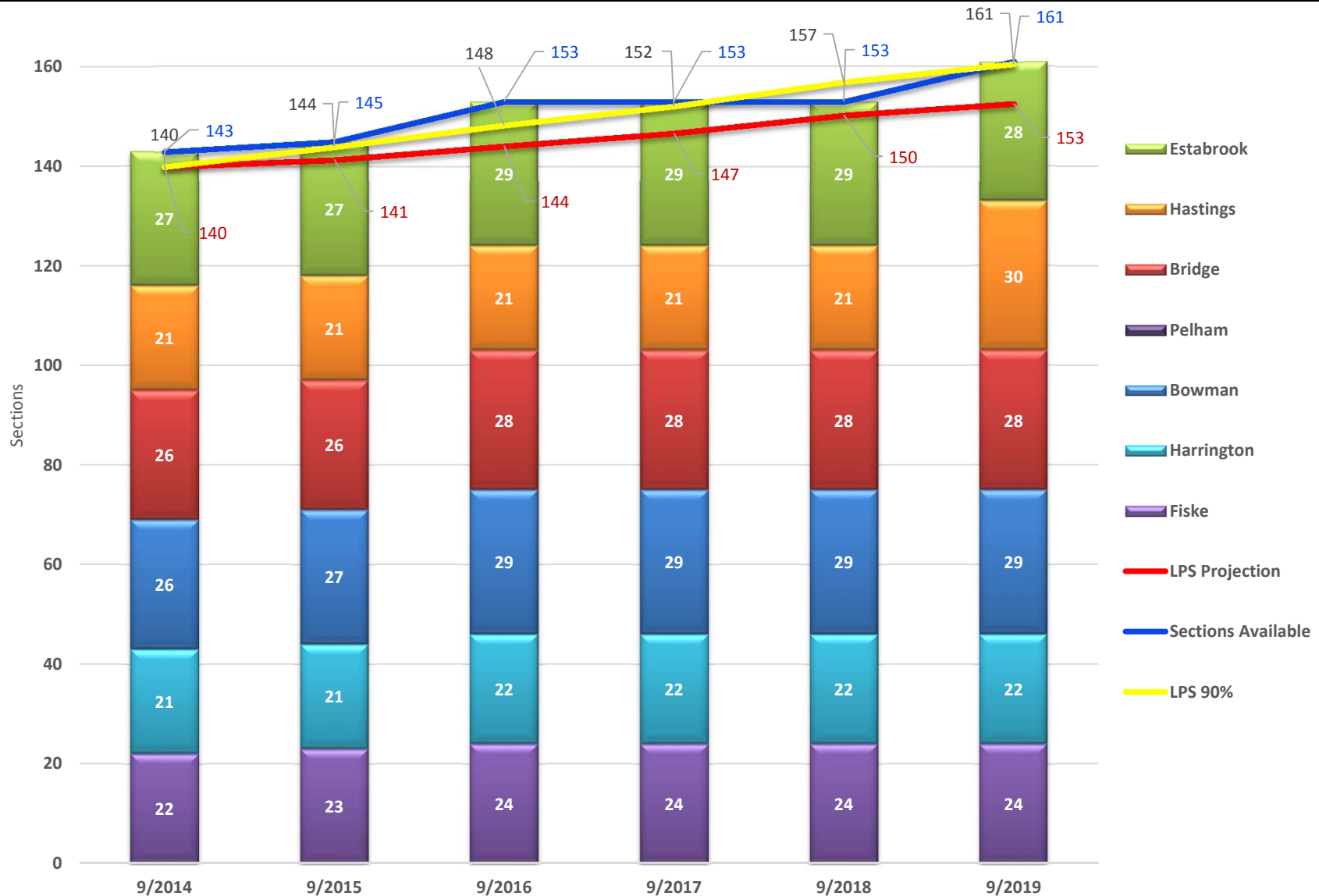


Fiske





# Elementary Enrollment and Capacity





# Elementary “Right Sizing”

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- Consensus plan requires flexibility, while not overbuilding.
- At completion of Hastings School, 161 sections will be available.
- Current LPS projection for September 2019 is a mean of 153 sections being required, with a 90% confidence interval between 161 sections to 145 sections.
- Right sizing schools will require making available general education class rooms to special education and art.  
Bowman (-5), Bridge (-3), and Fiske (-3)
- Depending on enrollment, right sizing may need to be deferred until additional space can be constructed.



# Elementary Space Types

Elementary School with November 2015 Enrollment Showing **Overcrowded Space** Types

MSBA Space Type	Estabrook (511)		Bowman (576)		Bridge (569)		Fiske (519)		Harrington (446)		Hastings (443)	
Core Academic	26,910	45%	23,499	51%	22,813	52%	24,513	48%	22,990	47%	18,787	46%
Special Education	6,101	10%	4,397	10%	3,825	9%	7,304	14%	5,708	12%	5,276	13%
Art & Music	4,972	8%	1,957	4%	1,961	4%	1,748	3%	2,704	6%	1,755	4%
Health & Phys Ed	6,352	11%	3,337	7%	3,337	8%	6,336	12%	4,543	9%	3,751	9%
Media Center	2,952	5%	2,080	5%	2,080	5%	2,550	5%	2,867	6%	1,622	4%
Dining	6,555	11%	5,984	13%	6,122	14%	4,883	9%	5,440	11%	6,485	16%
Medical	612	1%	305	1%	305	1%	483	1%	520	1%	224	1%
Adminstration	2,550	4%	3,231	7%	2,696	6%	2,162	4%	2,319	5%	1,764	4%
Custodial	2,140	4%	901	2%	763	2%	1,607	3%	1,856	4%	988	2%
Total	59,144	100%	45,691	100%	43,902	100%	51,586	100%	48,947	100%	40,652	100%

Elementary School Space Deficiency

Special Education			3,444	5 CR	2,587	3 CR	1,504	2CR				
Art							848	1CR				

School Administration will be working with a consultant, with the objective to bring To the School Committee a redistricting plan to reduce overcrowding.



# Future Elementary Options

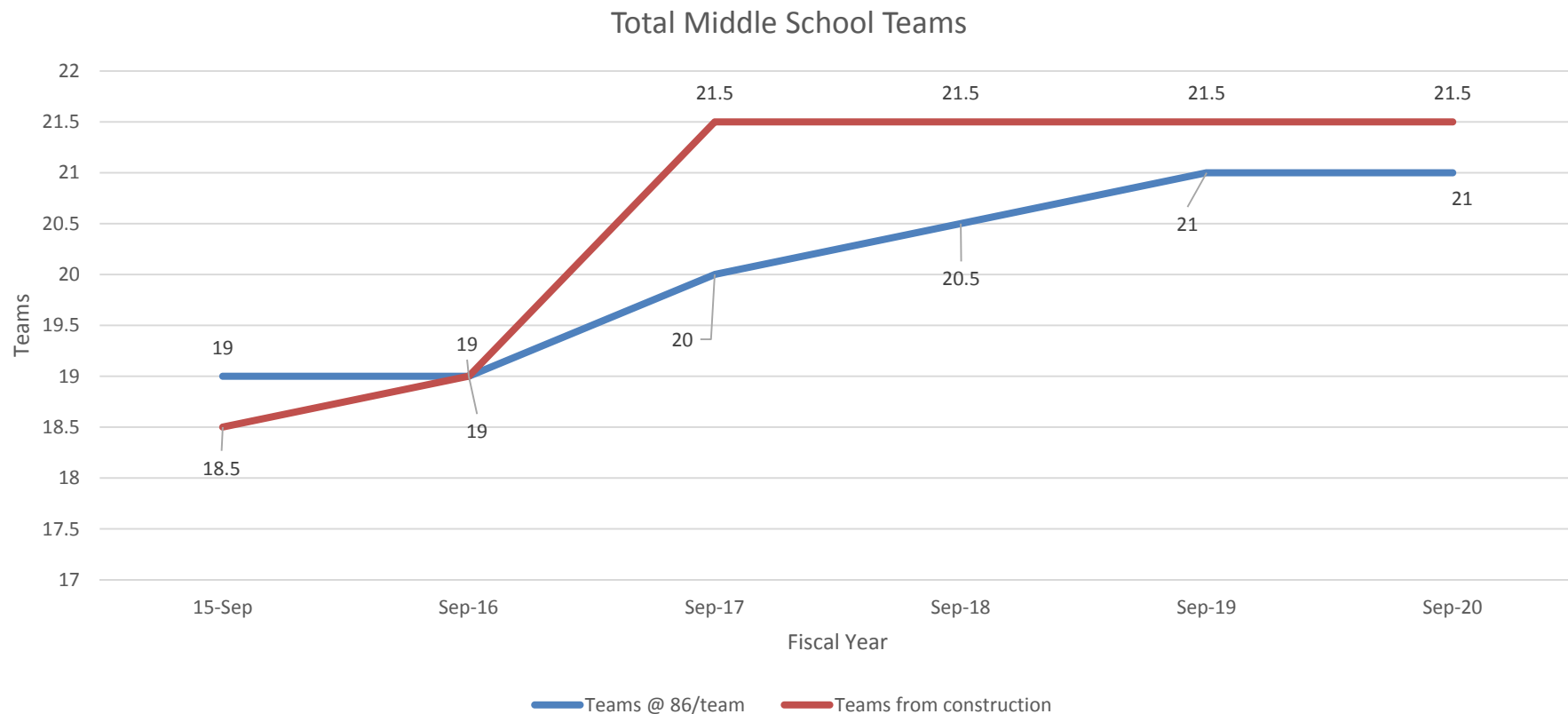
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- 24 section school (+24) on Pelham Road (\$53M)
- Fiske (+4) to 26 section school (\$14.1M)
- Harrington (+8) to 30 section school (\$16.4M)
- Harrington (+2) to 24 section school, with LCP, (\$16.4M)



# Middle School Recommendation

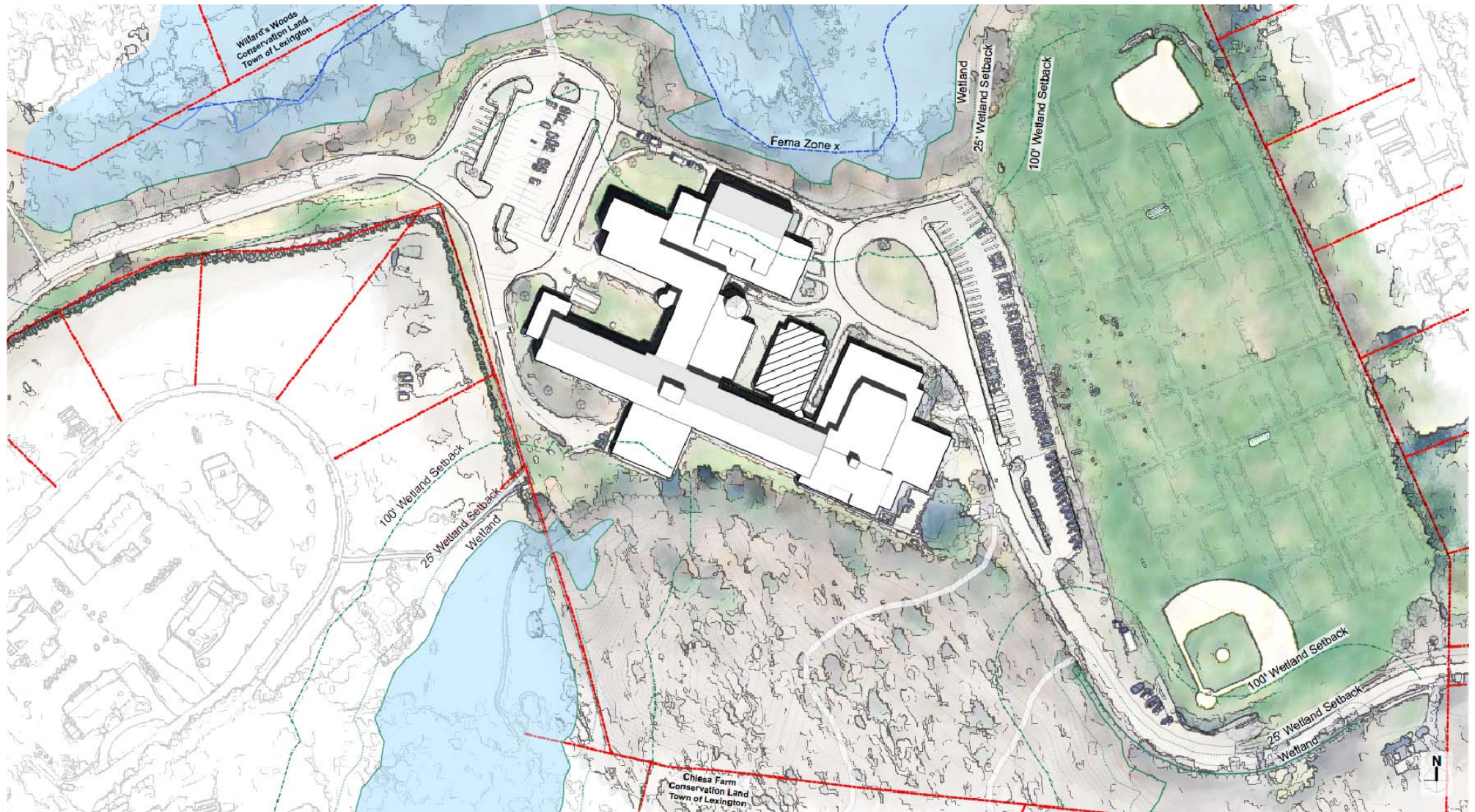
**Provide sufficient additional middle school space for mid-point growth projection, September of 2019, and reduce average team size from 89 students per team to 86 students per team.**







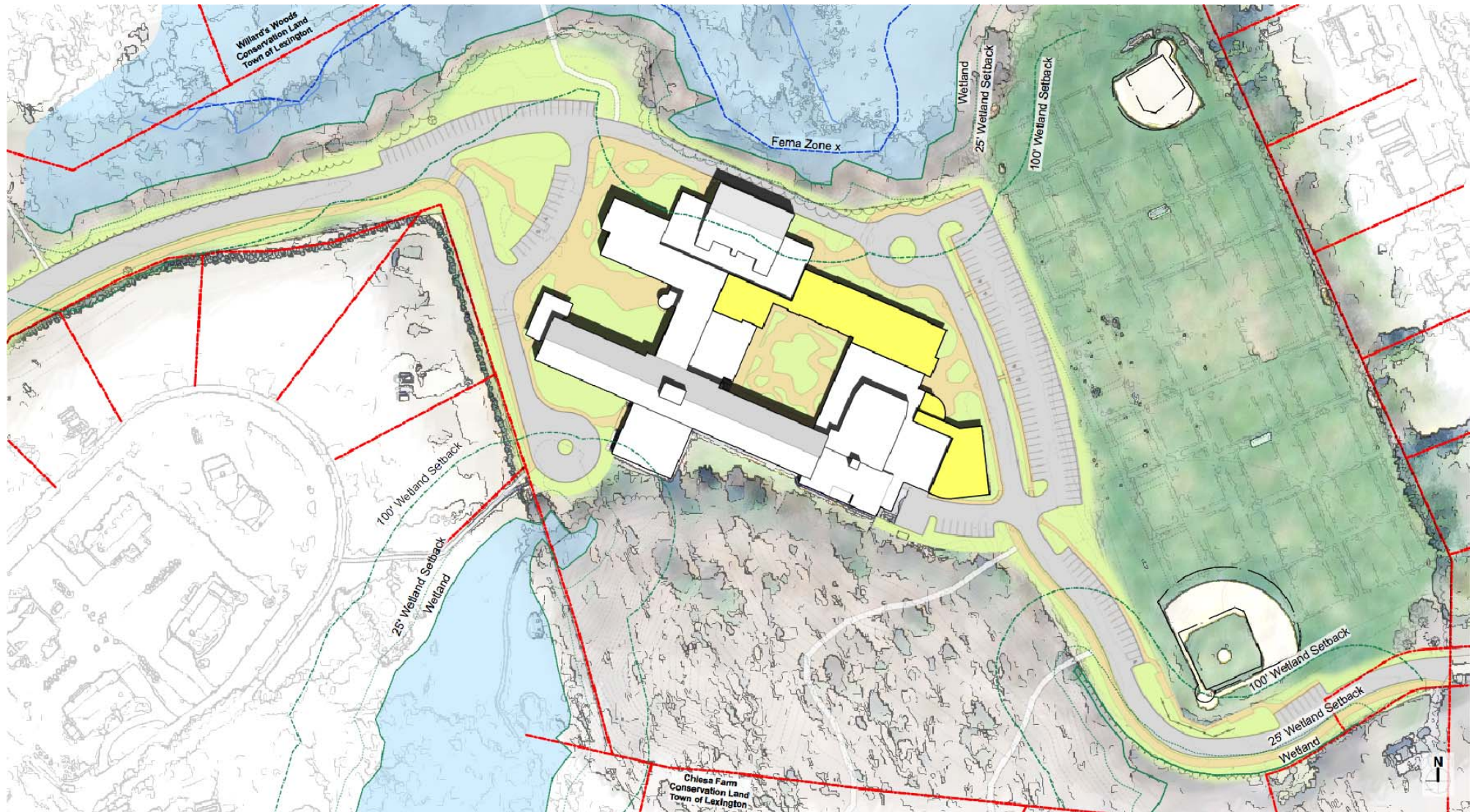
# Diamond | Existing Site Plan







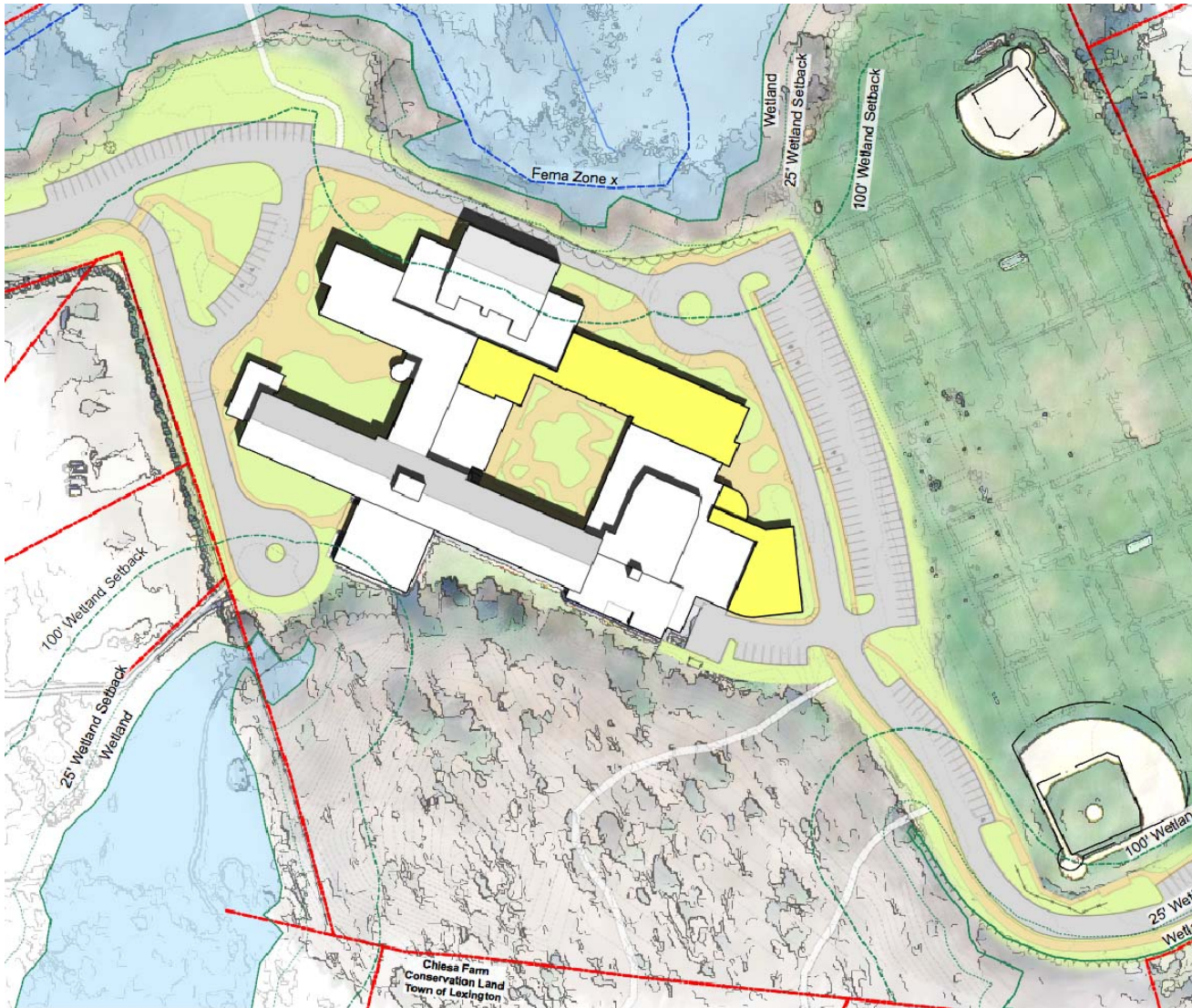
# Diamond | Proposed Site Plan







# Diamond | Addition Renovation



- 36,000 GSF  
Brick and mortar addition
- 44,000 SF Renovation
- Cafeteria Relocation
- Mechanical Upgrade
- Multiple Phases
- \$44,541,900 Project Cost
- Occupancy: August 2017
- Completion: August 2018





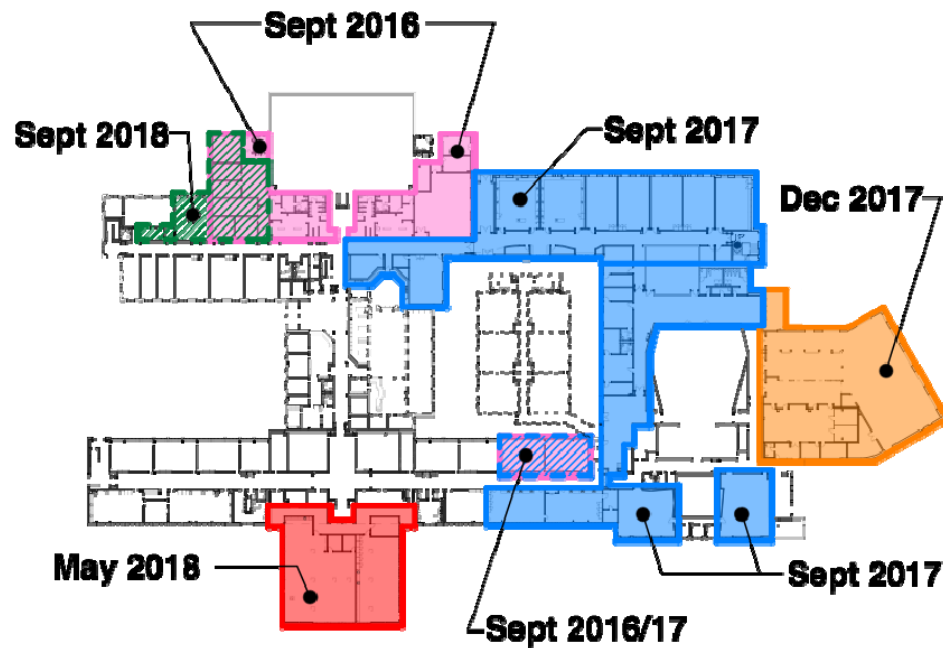
# Diamond | Project Improvements

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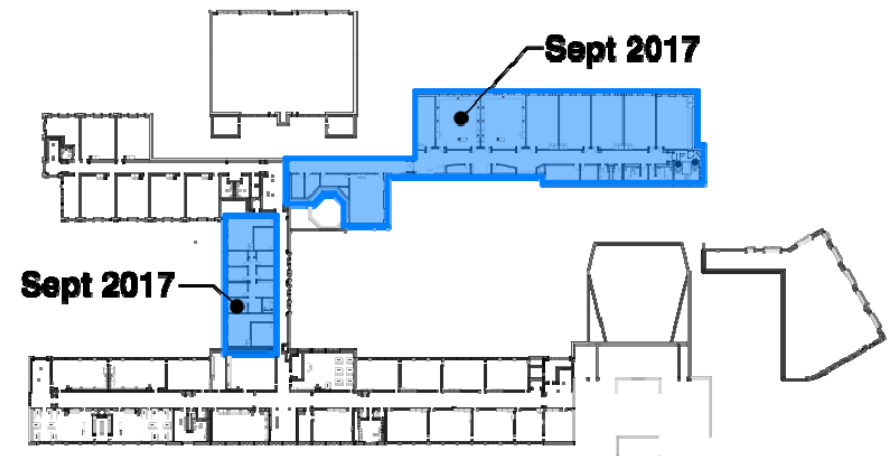
- **Team Capacity** - (9) teams to (11) teams
- **Teacher Planning** - Allows CR sharing
- **General Ed CRs** - (36) CRs to (36) CRs – (remove 6 mod's)
- **Science CRs** - (9) CRs to (12) CRs
- **Art, Music, Drama, & Engineering** - (5) CRs to (8) CRs
- **SPED** - Improved quality / quantity including new ILP
- **Kitchen & Cafeteria** - Improved size and quality
- **Buses & Cars** - Significant Improvement / separation



# Diamond - Phased Construction



**First Floor**

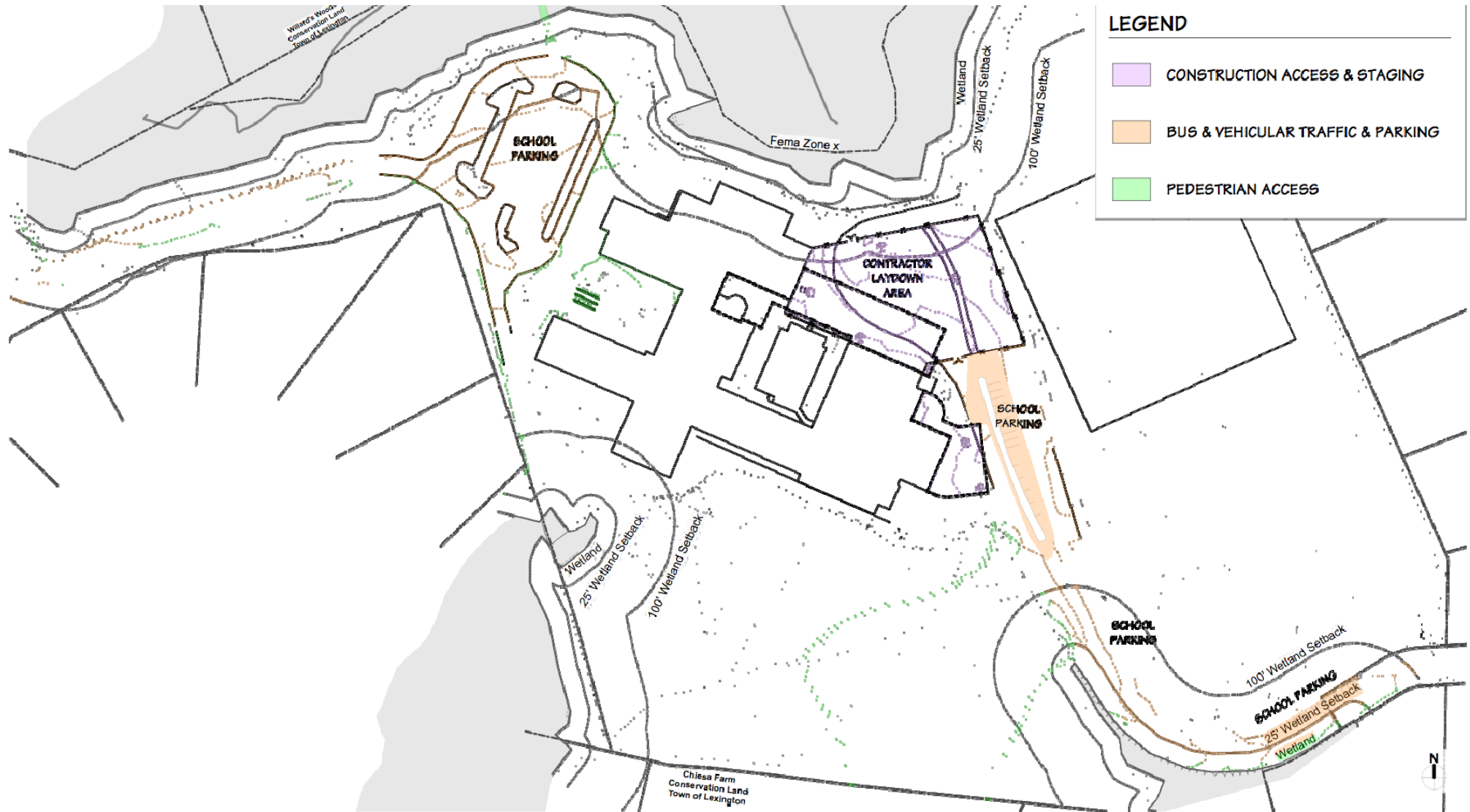


**Second Floor**





# Diamond | Site Phased Construction Plan





# Diamond - Schedule

	Diamond Middle School	2015					2016												2017												2018																		
		A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N								
1	Testing																																																
2	Permitting																																																
3	SD / DD																																																
4	CD's																																																
5	GMP #1 Sitework																																																
6	GMP #2 Foundations/Steel																																																
7	GMP #3 Space Mining																																																
8	- Abatement																																																
9	- Demolition																																																
10	- MEP Disconnects																																																
11	- Temporary Conditions																																																
13	Bidding																																																
14	GMP #4 - FINAL GMP																																																
15	Construction																																																
16	-Sitework																																																
17	- Foundations / Steel																																																
18	- Phase 1 Space Mining																																																
19	- Phase 2 Addition - Academic Wing																																																
20	- Phase 3 Remove portable CR																																																
21	- Phase 4 Cafeteria Addition																																																
22	- Phase 5 Renovate Existing Cafeteria																																																
23	- Substantial Completion																																																
		A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N								



# Diamond | Proposed Design

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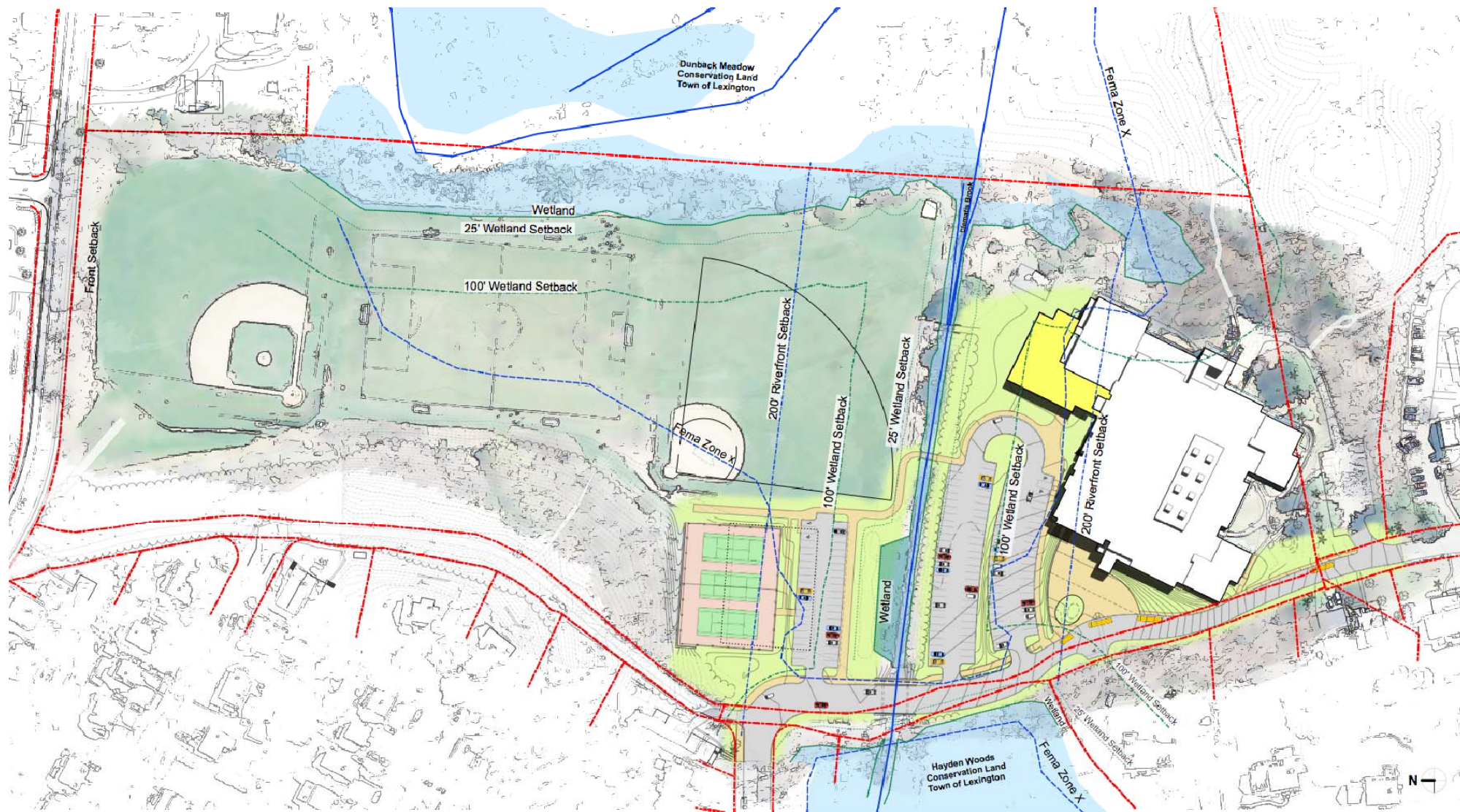








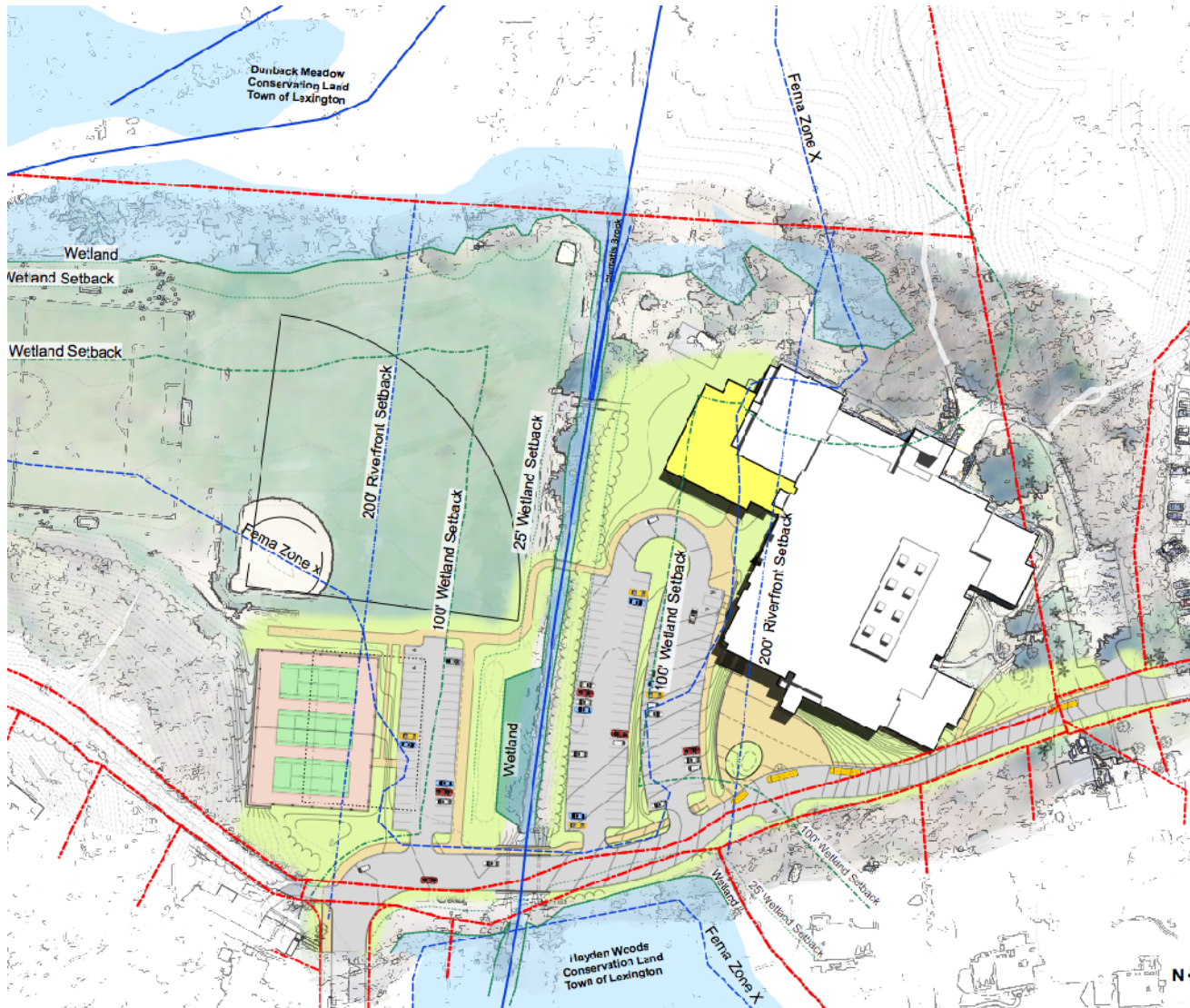
# Clarke | Proposed Site Plan







# Clarke | Addition Renovation



- 17,400 GSF  
Brick and mortar addition
- 21,600 SF Renovation
- Partition Walls
- PCB Removal
- Multiple Phases
- \$21,264,100 Project Cost
- Completion: August 2017





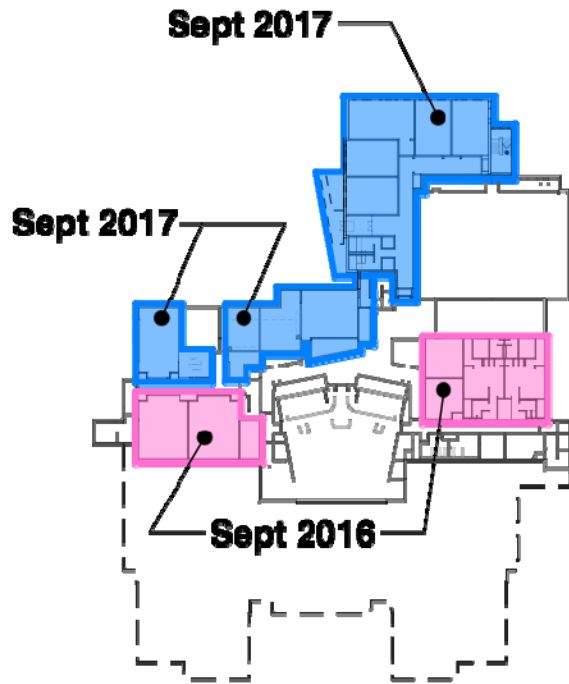
# Clarke | Project Improvements

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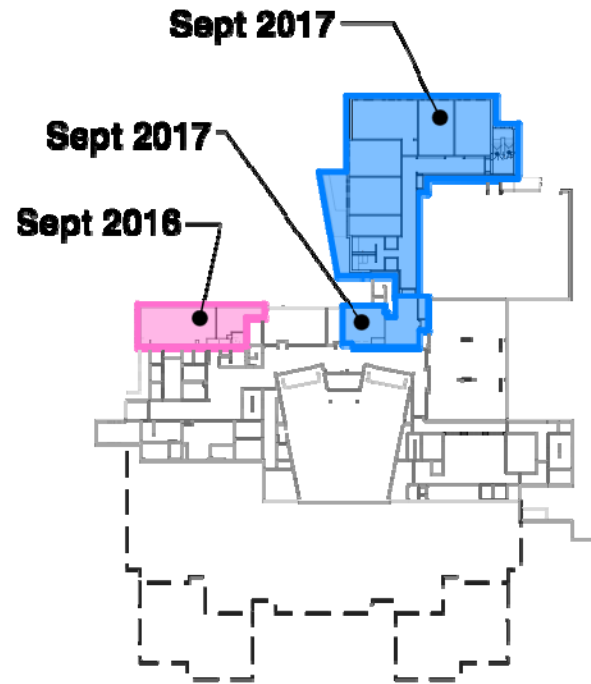
- **Team Capacity** - (9) teams to (10.5) teams
- **General Ed CRs** - (30) CRs to (35) CRs
- **Science CRs** - (9) CRs to (11) CRs
- **Art, Music, Drama, & Engineering** - (5) CRs to (8) CRs
- **SPED** - Improved quality / quantity
- **Buses & Cars** - Significant Improvement / separation



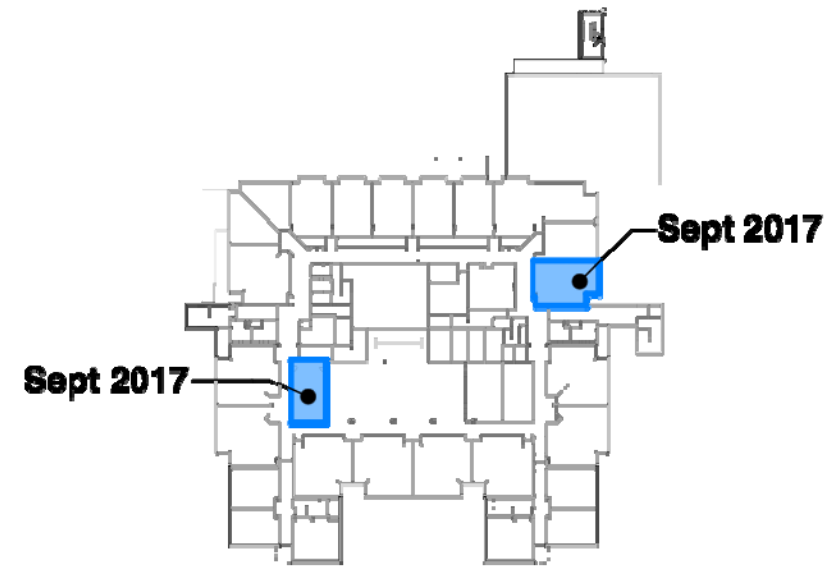
# Clarke - Phased Construction



**First Floor**



**Second Floor**

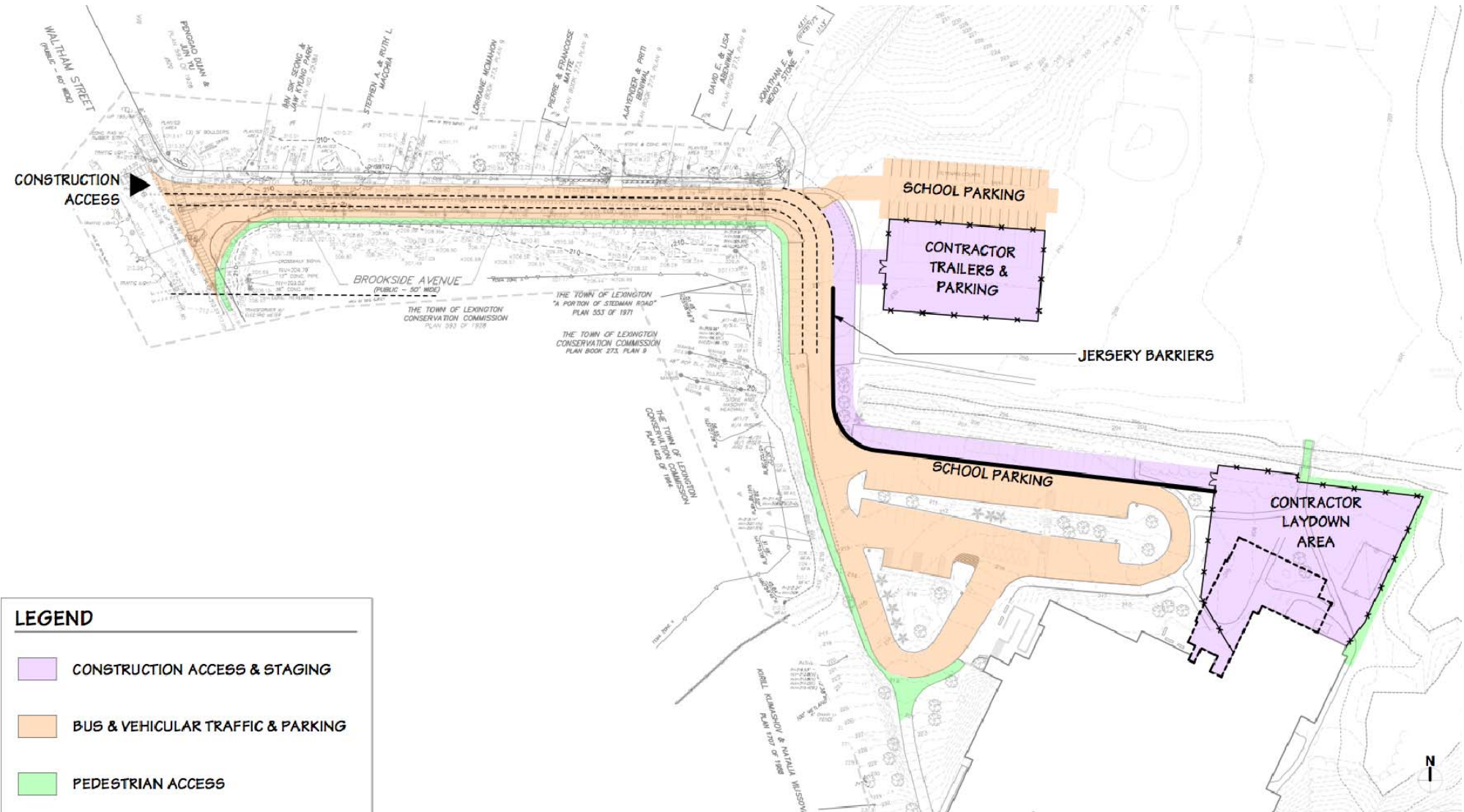


**Third Floor**



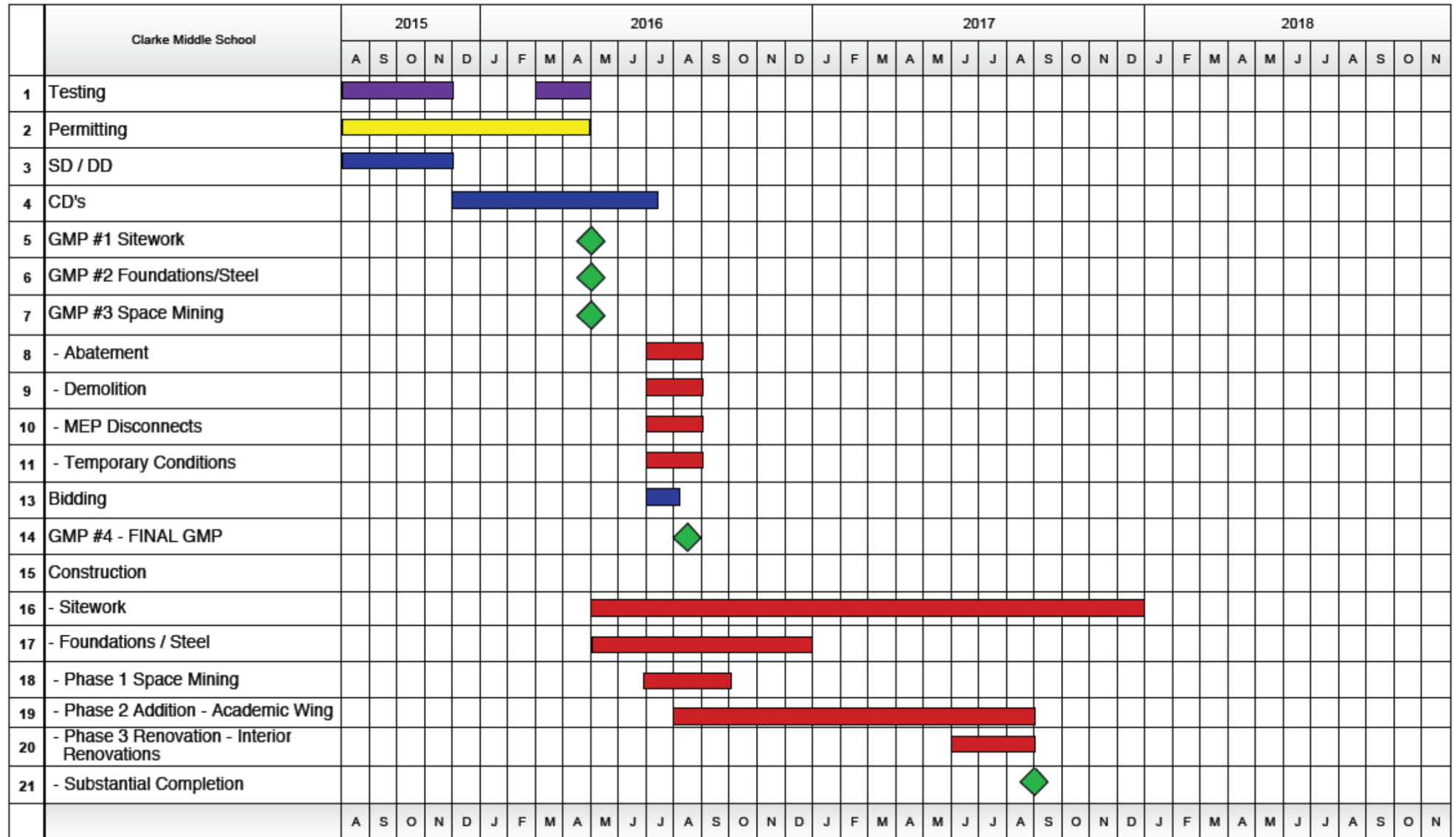


# Clarke | Site Phased Construction Plan





# Clarke - Schedule







# Clarke | Proposed Design

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# Mechanical Systems

## Diamond, Clarke, and LHS

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Members of the Board of Selectmen, School Committee, Permanent Building Committee, Energy Conservation Committee, Sustainable Lexington, and Public Facilities have been participating in an Integrated Design Process with DiNisco Design. Goals of the process are to develop potential policy guidelines that establish requirements for energy performance 30% better than code, prioritize healthy buildings, and optimize capital investment through life cycle costing.

The team has reduced the options to three systems. The systems performance and costs will be reviewed on December 11.

### **Systems:**

- 1) Induction (Estabrook )**
- 2) Variable Refrigerant Flow (LHS Prefabricated Buildings)**
- 3) Packaging Cooling via Rooftop RTU (Bridge/Bowman)**



# Agenda

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- ***Unasked Questions***
- ***Update since March STM appropriation***  
***Is growth still continuing?***  
***Update on March STM Appropriation***
- ***Review plans for optimizing usage***  
***PreK***  
***Elementary***  
***Middle School***  
***High School***
- ***School Committee Recommendation***  
***Appropriation request***



# Article 2 Appropriation Request

Project	Project Budget	December 7 2015 STM
<b>Diamond</b>	\$ 44,541,900	<b>\$1,212,000</b>
<b>Clarke</b>	\$ 21,264,100	<b>\$ 739,000</b>
<b>Hastings*</b>	\$ 54,758,700	<b>\$ 520,000</b>
<b>New LCP</b>	\$ 11,025,000	
<b>Six Modulares</b>	\$ 2,915,000	<b>\$2,915,000</b>
<b>LHS (HVAC)</b>	\$ 13,125,000	
<b>PROJECT TOTALS</b>	\$ 147,629,700	
		<b>\$5,386,000</b>

\* Funding to preserve option to proceed to Schematic Design without MSBA





# Potential Impacts of Growth

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## Impact on Educational Programming

- Higher class sizes
- Loss of dedicated art and music classrooms
- Suboptimal ELL space
- Negative impact on curriculum
- Negative impact on programming that can be offered
- Moratorium on new programs
- Extreme solution includes employing double sessions



# Potential Impacts of Growth

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## Impact on School Equity

- Building condition: Aging Hastings versus New Estabrook
- Uneven distribution of overcrowding across schools
- Uneven distribution of dedicated specialist space
- Safety considerations - from sprinklers systems to lack of student locker space to inadequate nursing space



# Potential Impacts of Growth

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## Impact on School Expenses

- Need for increased out-of-district placements - namely Pre-K, Special Education
- Need for more classroom aides
- Extreme solution includes employing double sessions - added salary, transportation, working family childcare issues





# Planning For Our Schools





# Questions?

